



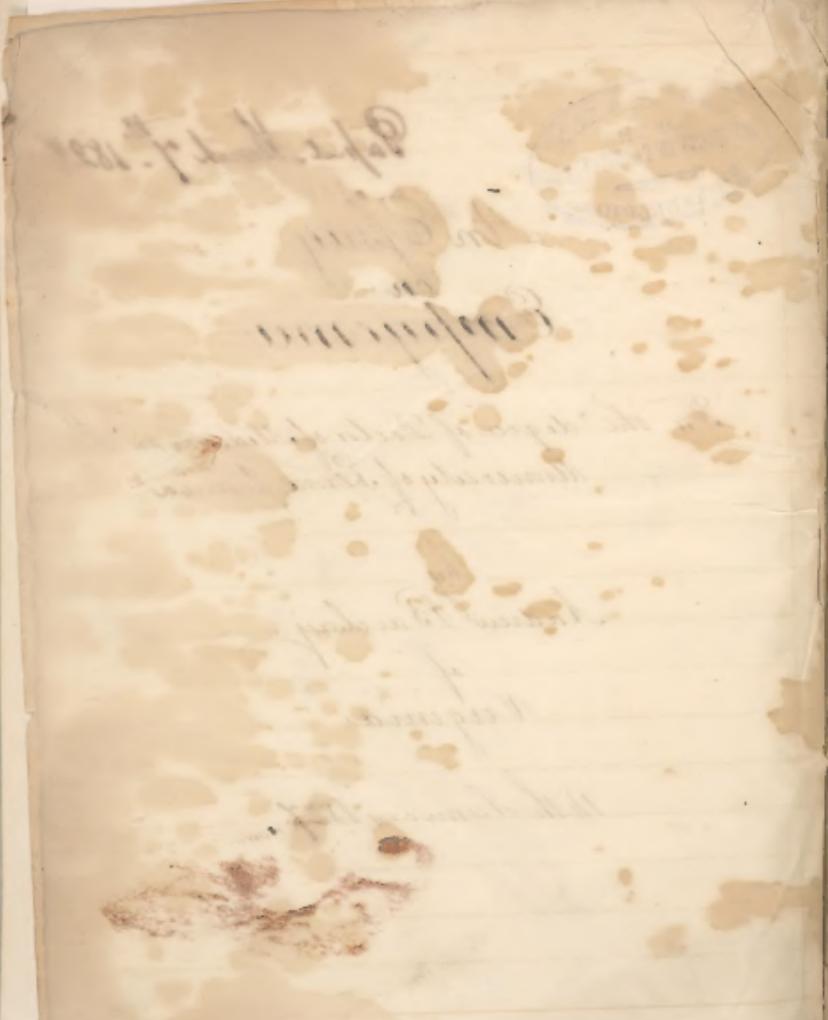
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An Essay on Empyema

For the degree of Doctor of Medicine on the
University of Pennsylvania

by
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of
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Empyema

Pleuritis or inflammation of that membrane which lines the internal surface of the Thorax and affords an envelope to the thoracic viscera, may terminate in several ways. 1st. by Resolution 2nd Effusion of serum 3rd Effusion of coagulating lymph 4th Effusion of pus or puriform matter 5th Gangrene The last, however is of very rare occurrence.

Resolution not having been accomplished by the efforts of nature or a judicious application of remedies, and the inflammation being of a mild character and generally diffused over the membrane, an increased secretion of serum takes place, which collecting in the cavity of the Thorax constitutes HydThorax. The most frequent termination is in the effusion of coagulating lymph and consequent

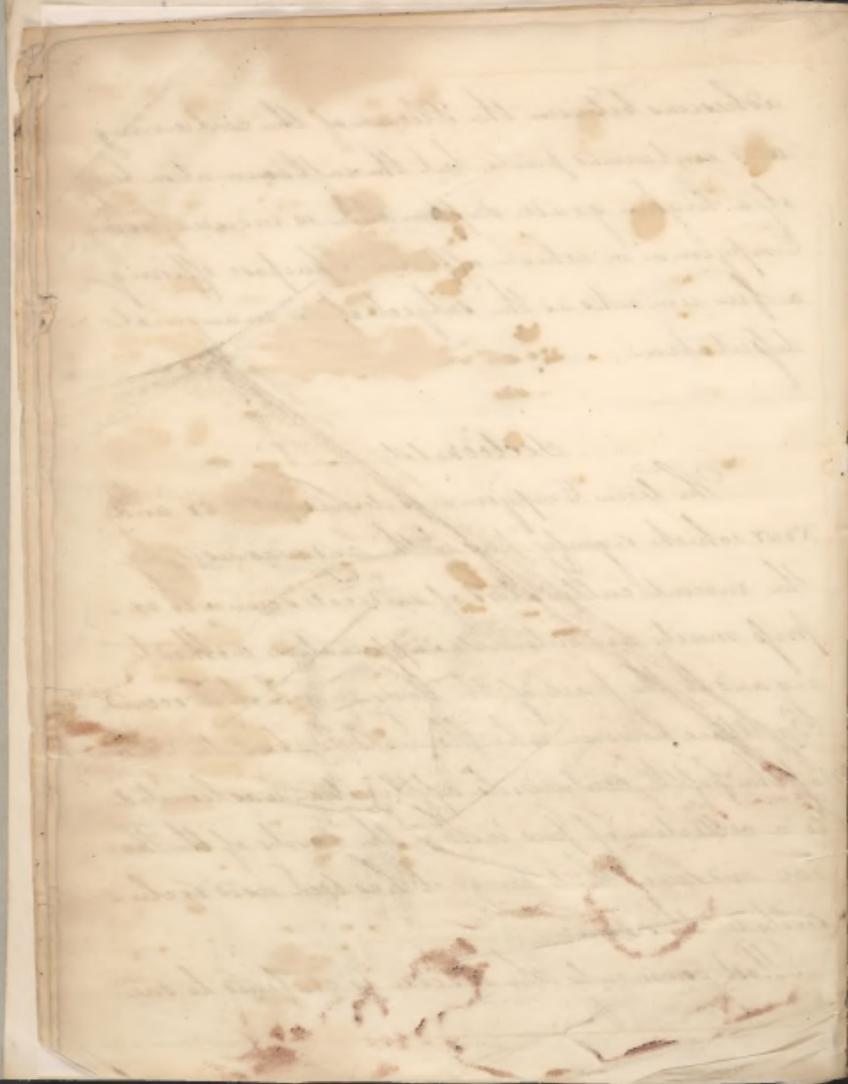
musum

adhesions between the Pleura of the containing
and contained parts, but the inflammation being
of a higher grade, suppuration is induced forming
Empyema, on which affection I purpose offering
a few remarks as the subject of an inaugural
disputation.

Section 1st

The term Empyema is derived from εύ and
νεύν which signify 'pus within' and was used by
the ancient cultivators of medical science to ex-
press much an internal suppuration without
regard to the part of the body in which it occurred.
By Aelius, however, who flourished about the end
of the fifth century, its application was limited
to a collection of pus within the cavity of the tho-
rax, and since that period it has been used exclu-
sively in this sense.

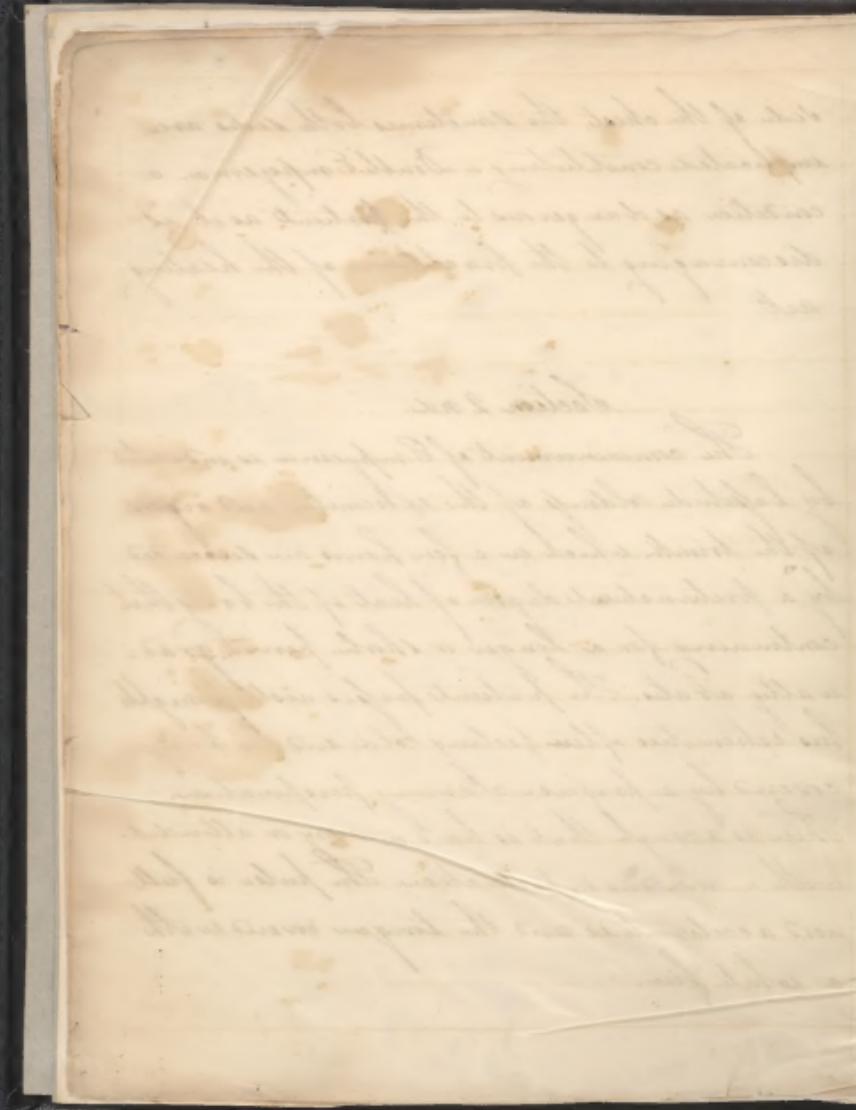
Most commonly the disease is confined to one



side of the chest, tho' sometimes both sides are implicated constituting a Double Empyema, a condition as dangerous to the patient as it is discouraging to the practitioner of the healing art.

Section 2d.

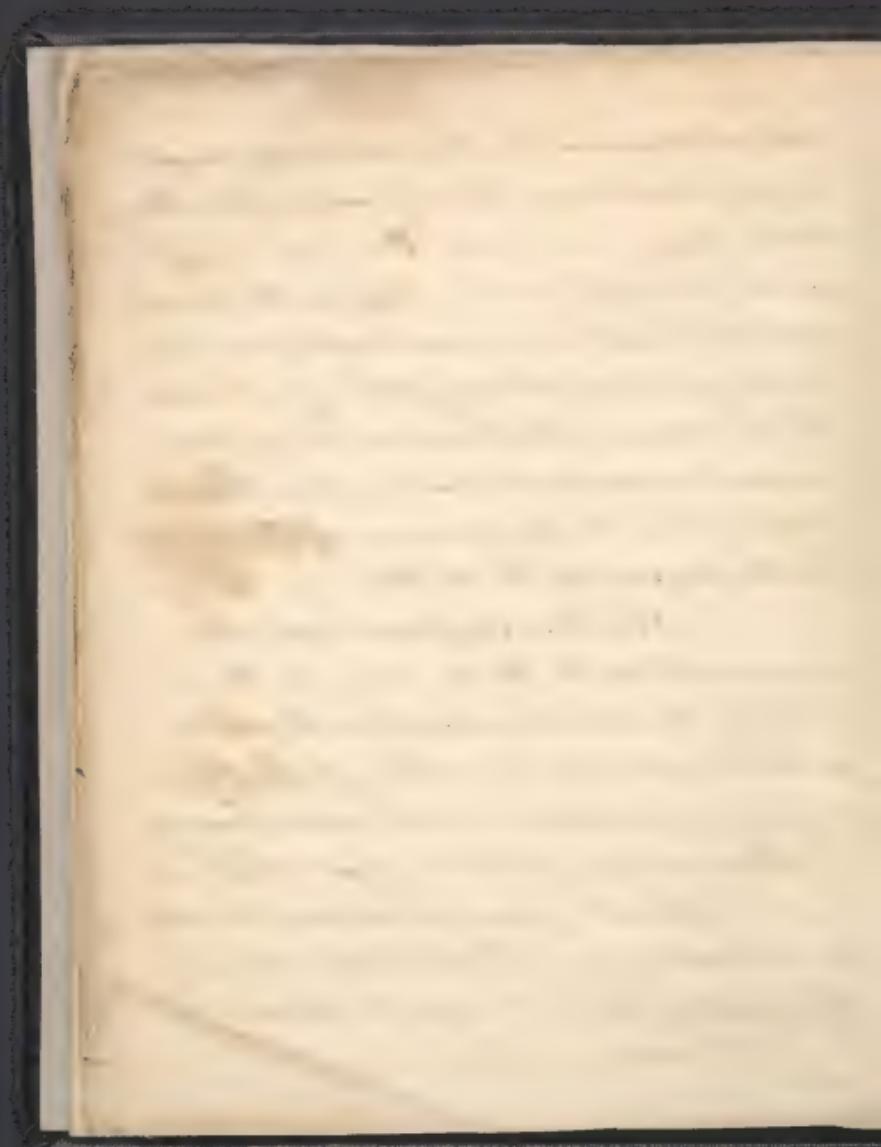
The commencement of Empyema is indicated by latencies, coldness of the extremities and rigors of the trunk which in a few hours are succeeded by a preternatural degree of heat of the body that continuing for a longer or shorter period gradually abates. The patient passes restless nights, his extremities often feeling cold, and his body covered by a profuse clammy perspiration. There is a cough that is harsh and dry or attended with a mucous expectoration. The pulse is full and accelerated, and the tongue covered with a white fur.



The suppurative process being now fully established, and the matter beginning to accumulate, there is a sensation of weight at the precordis and occasional slight dyspnoea. These become more distressing as the fluid increases in quantity, which having occurred to a considerable extent, a fluctuation is perceptible, not only to the patient, but to persons standing by, on any sudden movement, in the position of the body. This fluctuation becomes daily more evident and ascends until it can be distinguished above the superior margin of the clavicle. That side of the thorax becomes preternaturally expanded, the intercostal spaces becoming wider and edematous. The adema is not confined to the intercostal spaces extending sometimes over the whole of that side of the body on which the disease is situated, or to parts more or less remote, as to the Eye.

lid or *Exsternitis*. The shoulder becomes conspicuous, elevated and the difficulty of breathing is now almost intolerable. There is an inability in the patient to turn to lay on the sound side, and he experiences considerable pain on attempting to elevate the arm of the affected side. The pulsations of the Heart are felt, in some cases, at a considerable distance from the usual point, from the displacement of this organ by the pressure of the matter.

All these symptoms become more aggravated as the disease advances, till finally by the ulcerative absorption, the matter is discharged externally or through the nose, either by expectoration, or death ensues from suffocation, until an outlet be afforded the fluid by an artificial opening. Sometimes the matter is absorbed, and the chest contracting by the ascent of the Diaphragm, the descent of

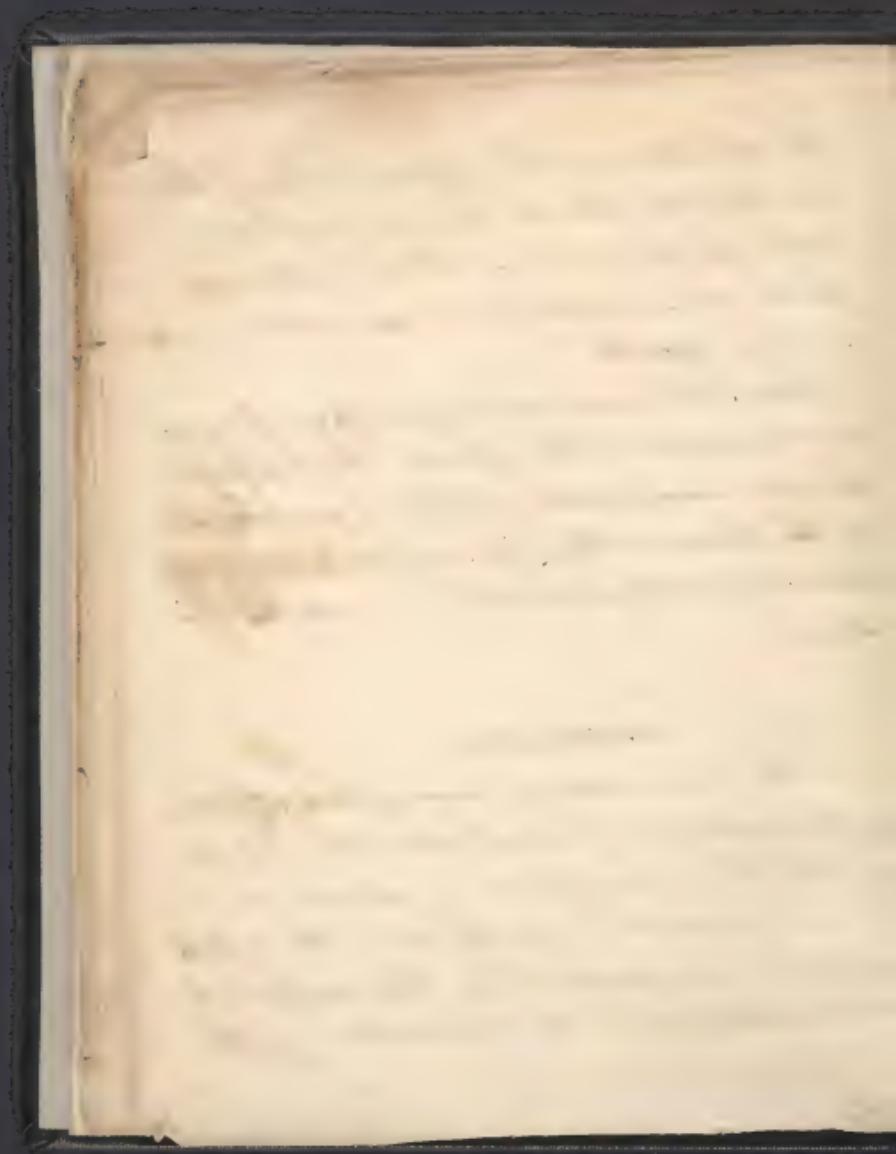


the shoulder and the approximation of the ribs to each other, the lung is brought in contact with the parietes of the thorax, between which adhesions take place and a natural cure is thus effected.

This is the usual mode of accession, progress and termination of this affection; tho' it is possible for a considerable quantity of pus to exist in the Thorax, without giving rise to any symptoms sufficiently distinct to indicate its presence.

Section 3rd.

The most ordinary cause of this affection is the influence of cold, to which the contents of the Thorax are peculiarly exposed, and hence it is most frequently met with in Northern climates, and particularly those subject to sudden changes in the temperature of the



atmosphere.

It may result also from violence of any kind done the chest, as wounds, blows &c. as well as from extraneous bodies, as bullet pieces of cloth, fractured or exfoliating ribs, entering the Thorax from the receipt of a wound by which inflammation is induced and perpetuated, while the wound healing externally. The escape of the mælum is prevented. The Pleura may participate in an inflammation previously seated in the substance of the or be induced by the discharging of a Vomica into the pleural sac.

In some few cases Empyema has been caused by the discharge of an abscess of the liver.

Section 4th.

The existence of a fluid in the cavity of the chest may be ascertained by an exam-



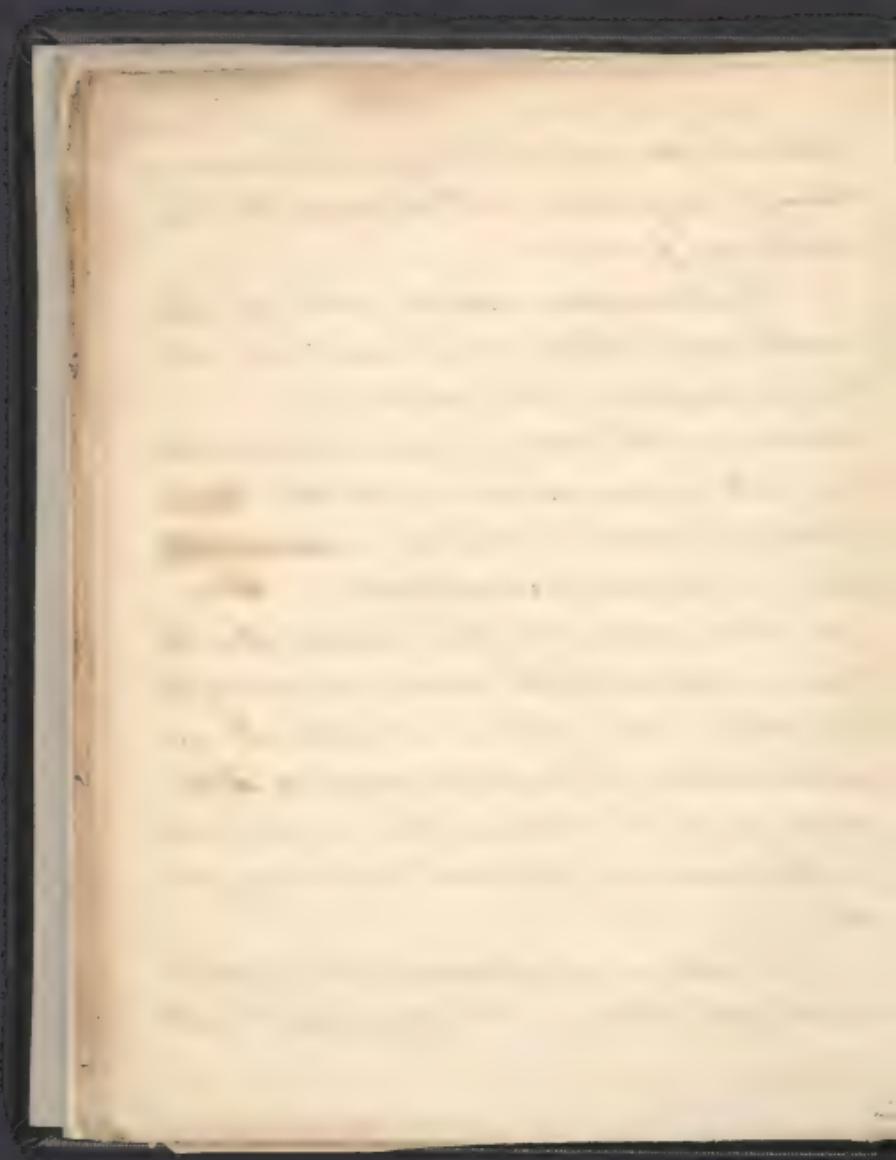
ination by percussion. Percussion and Auscultation in conjunction with the signs that usually are presented.

By percussion or shaking the body, a fluctuation is perceptible, which is more or less distinct in proportion to the extent of effusion.

Instead of the resonant sound which the thorax emits by percussion in a healthfull condition of its viscera, a dull, obscure sound is produced by this mode of investigation.

In Auscultation it will be observed, that the noise occasioned by the entrance and exit of the air into and out of the air cells of the lungs, which is called the respiratory murmur, is deficient, as also the vibration that is imparted to the paries of the chest in shaking or singing.

Two other circumstances worthy of attention are the following. The difficulty of breath-



ing, is very much aggravated by the re-
cumbent position of the body or by pressure ex-
erted on the Abdomen, and the inspiration is
performed with less facility and convenience
than the expiration.

With the presence of all these signs how-
ever, Empyema is not certainly known, since
they are common to many other affections
so arrive, therefore at a just conclusion in the di-
agnosis, it will be necessary to investigate on
every side the history of the case. If it be Em-
pyema, the effusion will have been preceded by
those constitutional symptoms which character-
ise the evolution of inflammation or the pro-
duction of pus, the least equivocal of which is
the occurrence of rigors; - it is a law of our na-
ture says Dr. Thomson that rigors of longer or
shorter duration and of greater or less degrees
of intensity, usually accompany the production



of pus in all the organs and regions in which it is formed

Section 5th.

The method of treating Empyema has been by evacuating the matter by an opening through the karacts of the Thorax or the skin, or of a common abscess. The want of success, however, that has generally attended this plan of treatment, affords little encouragement for its employment, further, than the surgeon the symptoms may demand. An opening as a palliative measure few instances are on record when a recovery has succeeded the operation. Of Empyema, in almost every case the disease is hastened on to a fatal issue by . from the violence of the constitutional symptoms

An opinion is entertained by medical & ^{the} clergymen that the presence of the pus is the only



never be the expansion of the lung, and were it removed, a cure would ensue by the lung coming in contact with the chest and forming adhesions. The improbability however of such a word is clearly demonstrated by examinations after death, where it is discovered that the lung is enveloped by an adventitious membrane of such density of structure, that no effort of this organ of expansion could overcome its resistance. And it always retains its aptness for inflation, which it does not partaking generally more or less in the morbid action.

Others, upon perhaps of the impracticability of this mode of cure and under the impression of obliterators, by the granulation process, a cavity intolerable to the animal economy, have after accumulating the matter, resorted to the use of astringent injections. This practice appears to me decidedly useless, since we are taught that



that serous membranes never granulate, and
evidently permeous, as it tends by exciting a
new degree of irritation to increase the discharge
already too profuse.

The mode by which nature endeavours to
effect a cure after the removal of the molar is
as before stated by a contraction from the cir-
cumference of the cavity towards its centre. It
would therefore appear reasonable, that by the
operation of Emphysema we might assist her in
the design and ultimately effect a cure; but gen-
erally before this end can be accomplished, the
patient is worn out by constitutional irritation
and death terminates his sufferings.

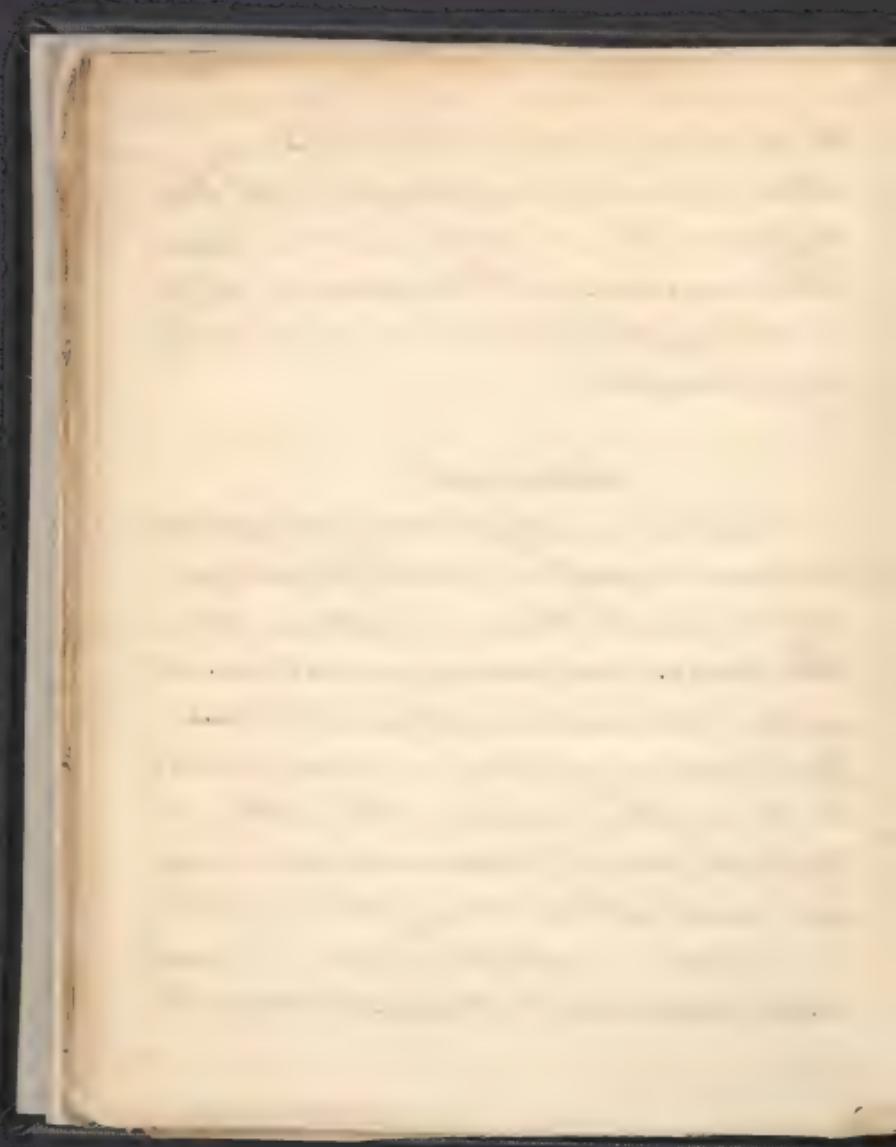
Entertaining these views of the disease
drawn from the experience of others, I am inclin-
ed to the opinion, that the operation should be
deferred until that period, when the quantity of
fluid becomes so great as to impede materially



the function of respiration by its mechanical action, and manage the approach of death from suffocation. Here, it must be considered inevitable, consistently with the protraction of life and consequently should be resorted to as the only alternative.

Section 6th.

The place usually selected for the operation is between the sixth and seventh rib and over distant from the sternum and spinal column. This perhaps under ordinary circumstances will be found the most advantageous situation for the opening; yet, there are certain conditions of the part, that may lead to the adoption of some other point. If a prominence exist on any part caused by the pointing of the abscess, then we are advised to make the opening. We may also be directed to a particular spot says Mr.



Charles Bell by the long continuance of a fixed pain. It sometimes happens, that the Diaphragm has formed adhesions with the costal pleura, as high as the space mentioned as being usually selected, for the operation, in such a state of things, were the operation performed at this point, it would not only be ineffectual in affording an exit to the matter, but injury might result from protruding the instrument into the Abdominal cavity.

It would appear, therefor, that no fixed place can be laid down for the operation, but that one must always be decided on from the peculiar state of each case.

When a point has been determined on a large size Trocar will make an opening suffi-
ciently large, where the escape of matter only is re-
quired; but, in those cases where there is reason to
suspect the presence of some foreign substance

it will be necessary to use a scalpel, that the substance may be removed also. In four or five cases, says Professor Gibson, "I have succeeded in floating out along with the matter, pieces of cloth and bits of exfoliating ribs, by throwing in injections of tepid milk and water."

Having thus evacuated the matter, and thereby alleviated the sufferings of patient in some degree, as much is accomplished as can be hoped for. the orifice should therefore be closed and healed by the first intention, while the patient's system is supported by a nourishing diet and the whole tonic plan of treatment.

